Ocean View Shoreline Project Update

Overview for
Norfolk City Council
January 7, 2014

City Council Priority: Environmental Sustainability

Goals:

Enhance efficient use and protection of natural resources

Reduce the negative impacts of coastal flooding

City Manager Initiative: Norfolk Flooding Strategy


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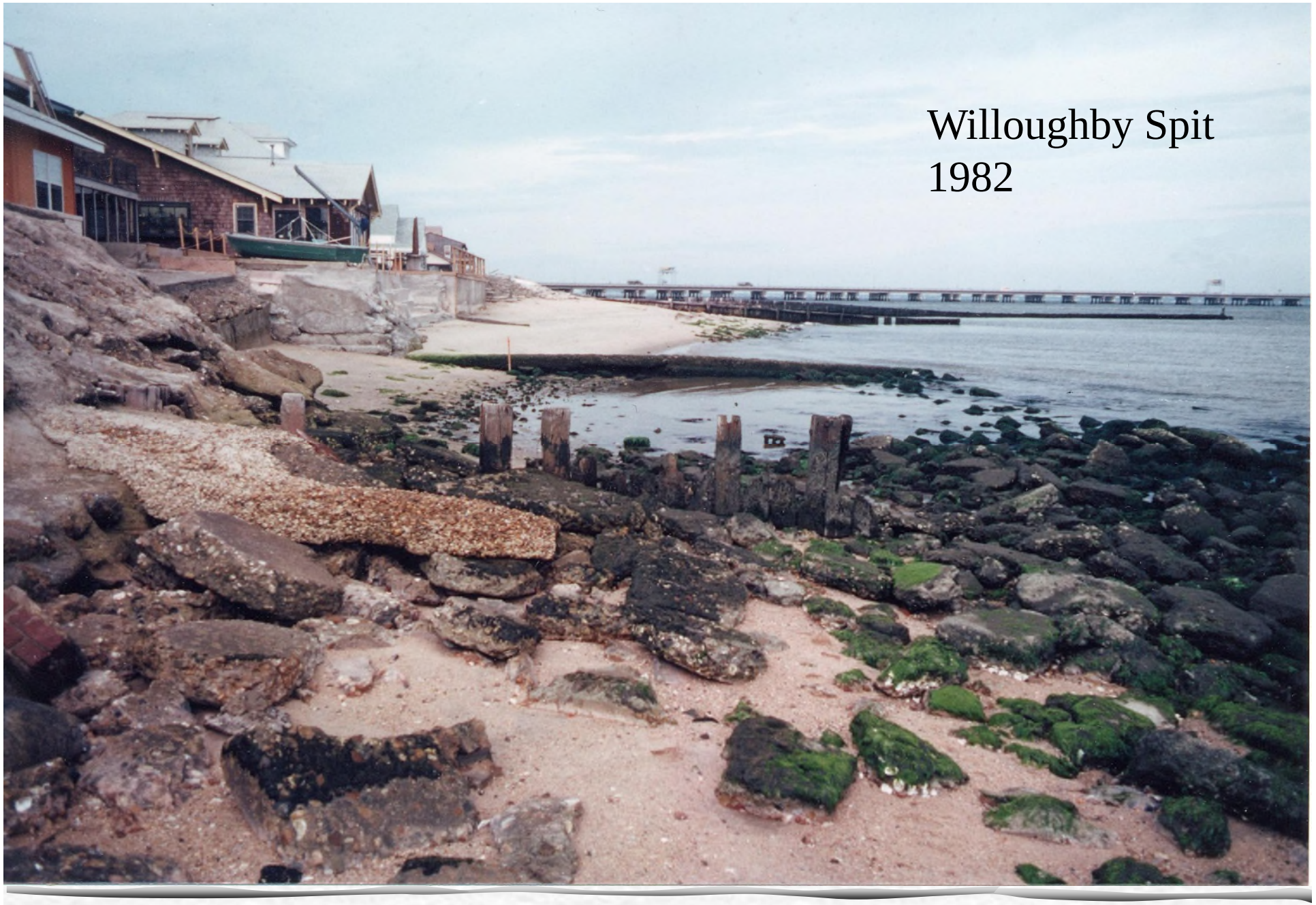
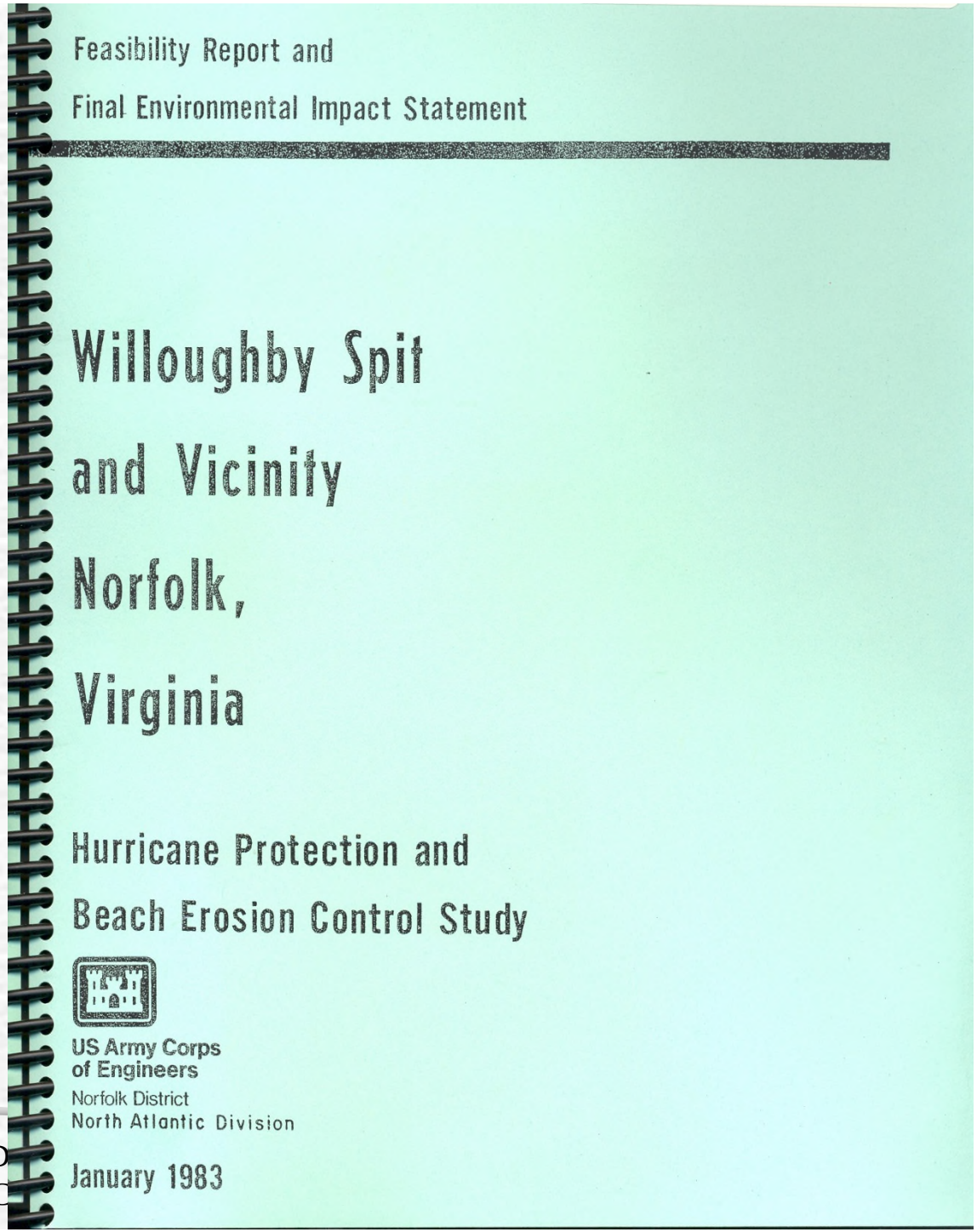

Willoughby Spit
1982


Central Ocean View
1990s


East Beach After 1978 Nor'easter
Photo: City of Norfolk

- Federal Assistance Requested
- Feasibility report completed in 1983
- Determined that "most practicable and efficient" plan to address erosion problem was beach nourishment



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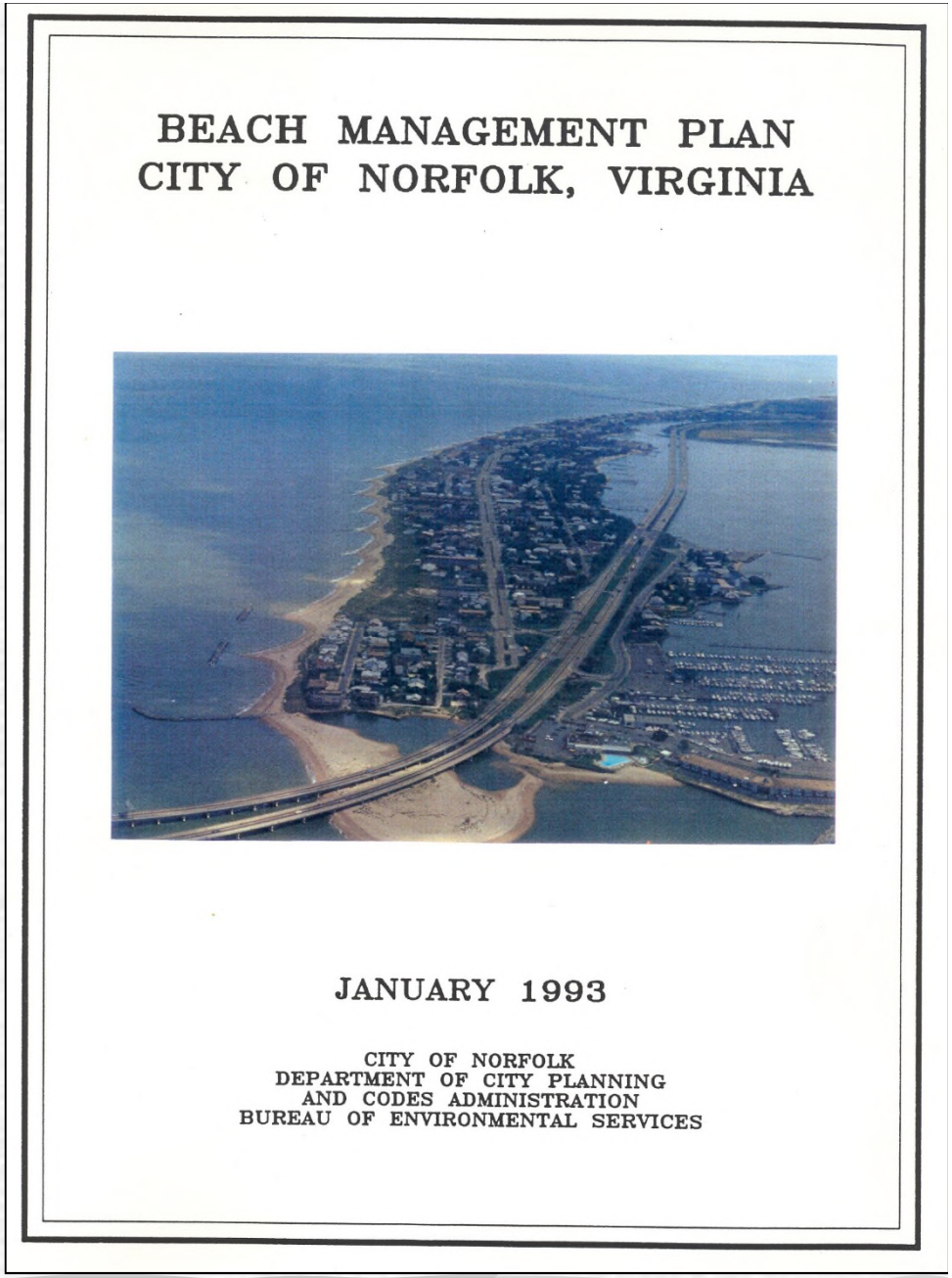
Key Strategies:

- 1993 Beach Management Plan
- Implement structural controls (i.e., offshore breakwaters)
- Develop long-term strategy for beach renourishment (Federal/Local Partnership – GRR)



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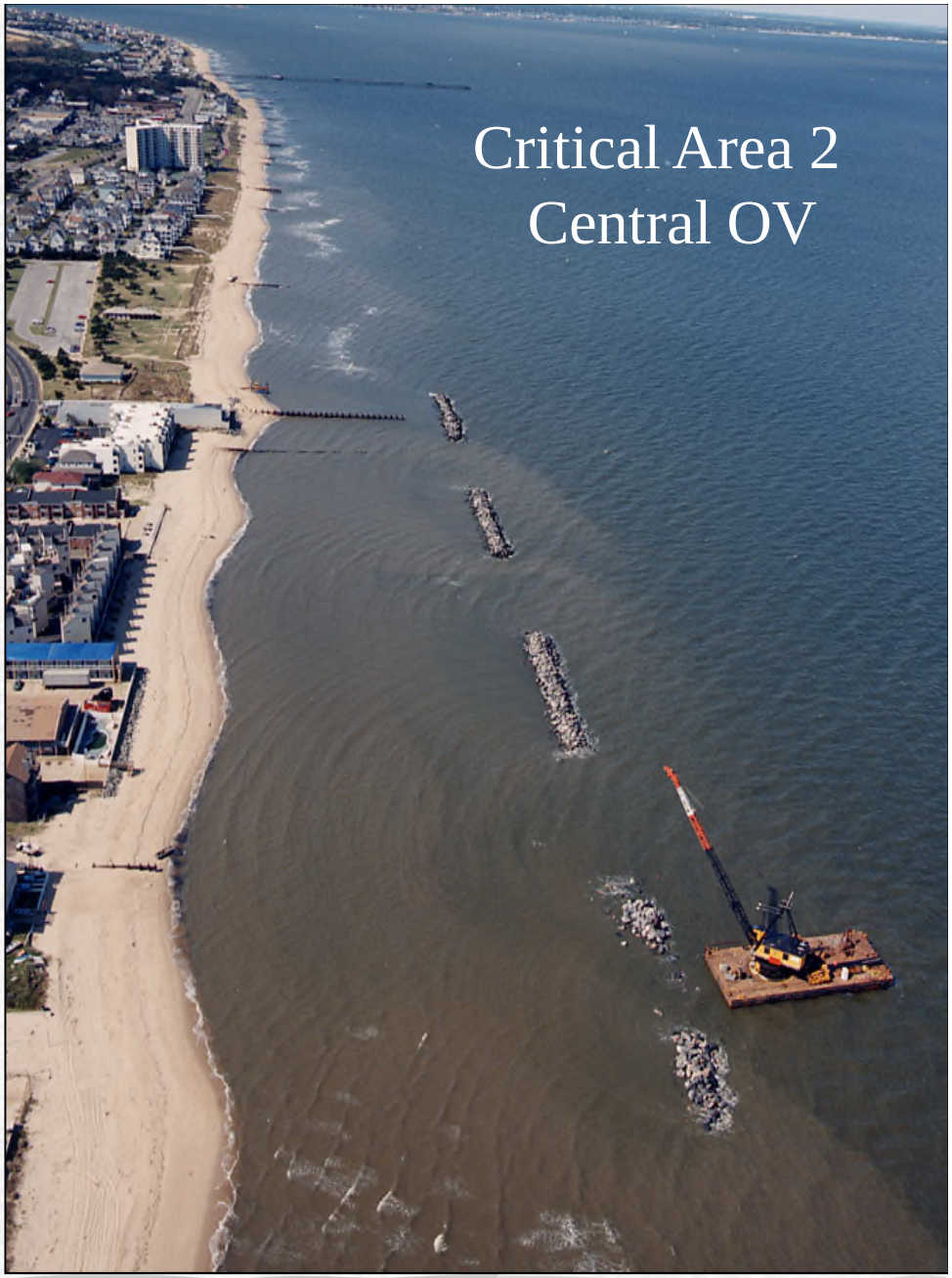


Critical Area 3 - E. Ocean View
Bay Breeze Point
East Beach
36 offshore breakwaters
constructed over last 30 years
6/12/2002

Bay Oaks II to
Ships Cabin Restaurant

Bay Breeze Point

2000 - 2003 East Ocean View Shoreline Change Analysis

Station	0' NAVD 88 Shoreline Change (ft)	3 Year Shoreline Change Rate (ft/yr)
170	-74	**-25**
174	-96	**-32**
179	36	**12**
183	39	**13**
187	19	**6**
190	-3	**-1**
194	7	**2**
197	15	**5**
199	12	**4**
201	22	**7**
205	-15	**-5**
209	-60	**-20**
212	2	1
Rocks	0	0
Avg.	-7	-2

Post-Isabel Ocean View Beach Nourishment Projects


Bay Breeze Point
09 19 2003


Bay Oaks – 19th Bay St
09 19 2003


Willoughby Spit
9/19/03


Willoughby Spit
9/18/2003


Willoughby Spit
05 10 2005

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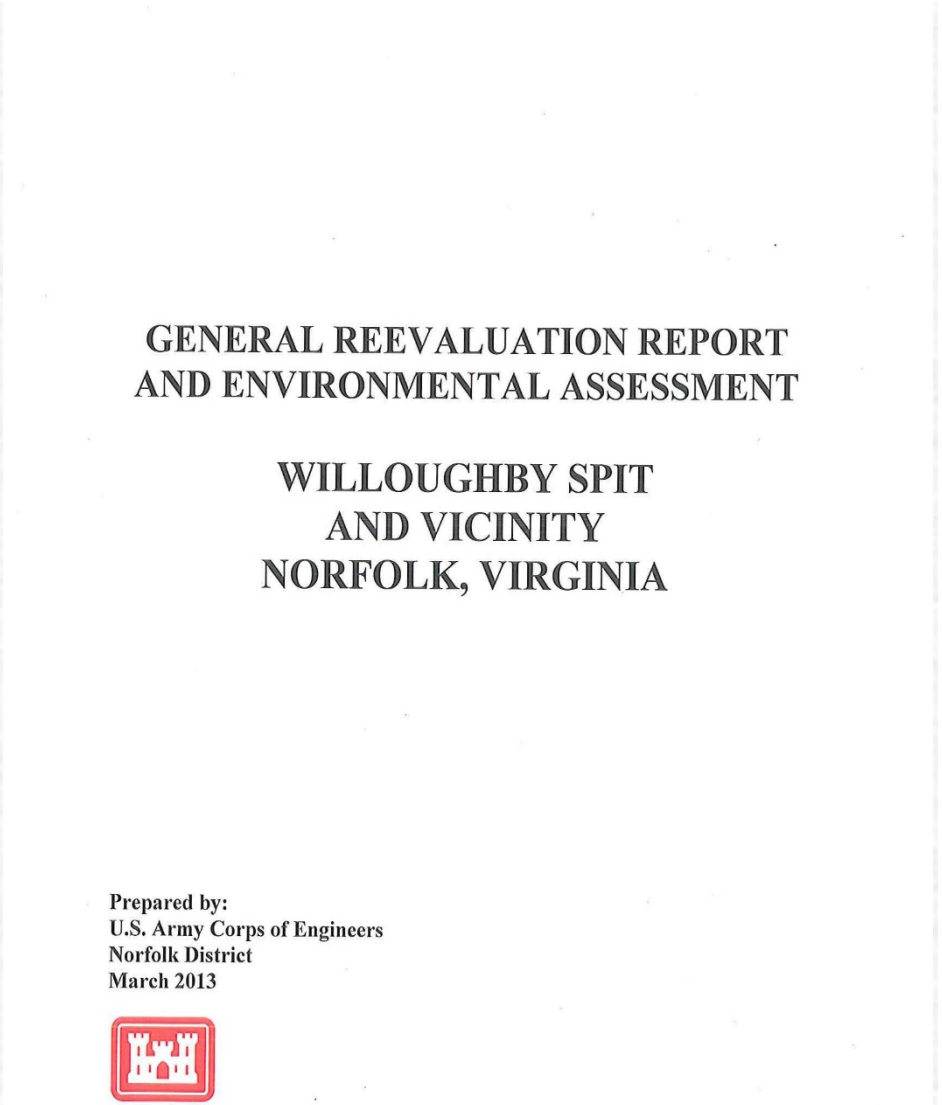
GENERAL REEVALUATION REPORT
AND ENVIRONMENTAL ASSESSMENT

WILLOUGHBY SPIT
AND VICINITY
NORFOLK, VIRGINIA

Prepared by:
U.S. Army Corps of Engineers
Norfolk District
March 2013

GRR Options:

- National Economic Development Plan
  - Widen beach by 50 feet
  - Increase crest width to 30 feet and dune height to at least 14 feet
- Locally Preferred Plan
  - Widen beach by 60 feet
  - Maintain existing sand dunes heights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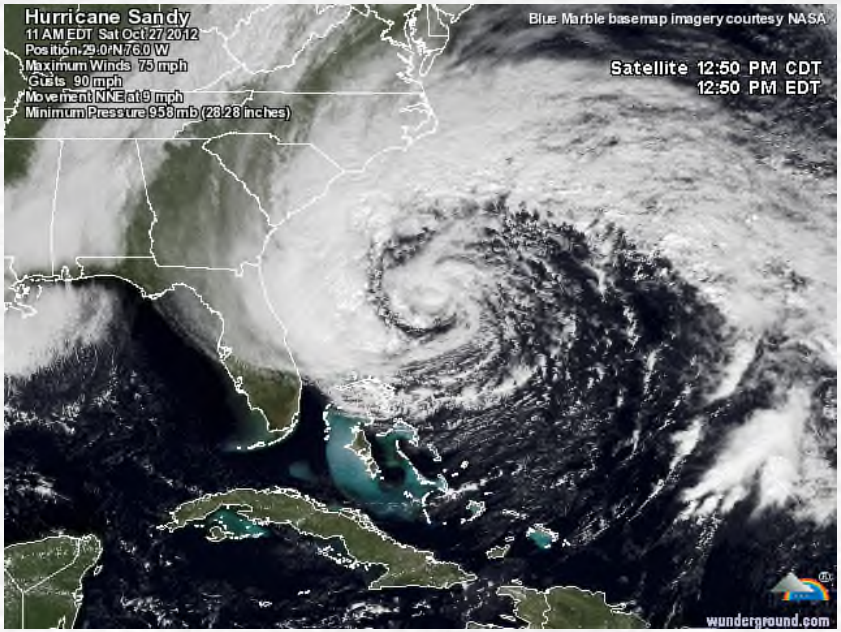
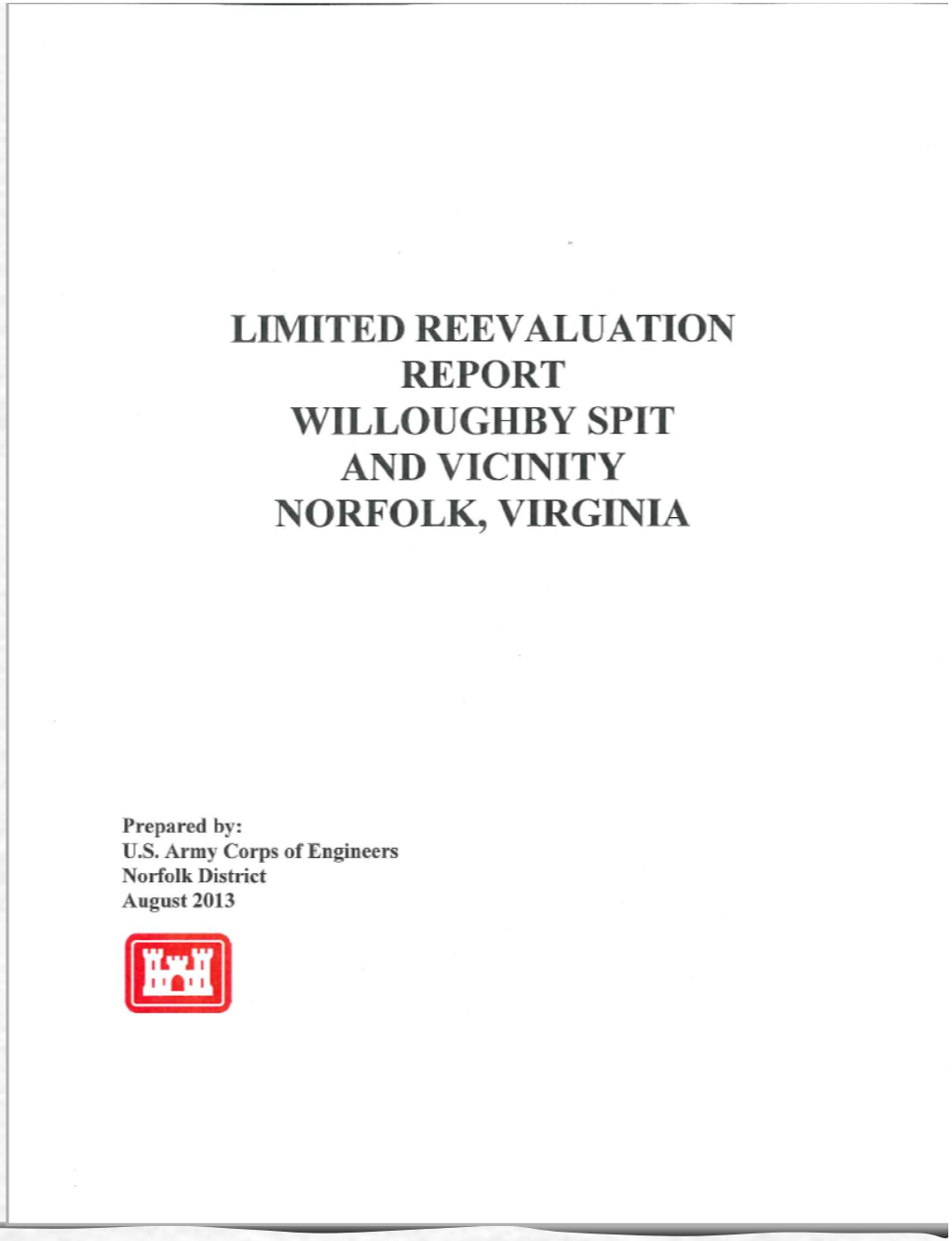
Hurricane Sandy
October 2012



Response to Sandy

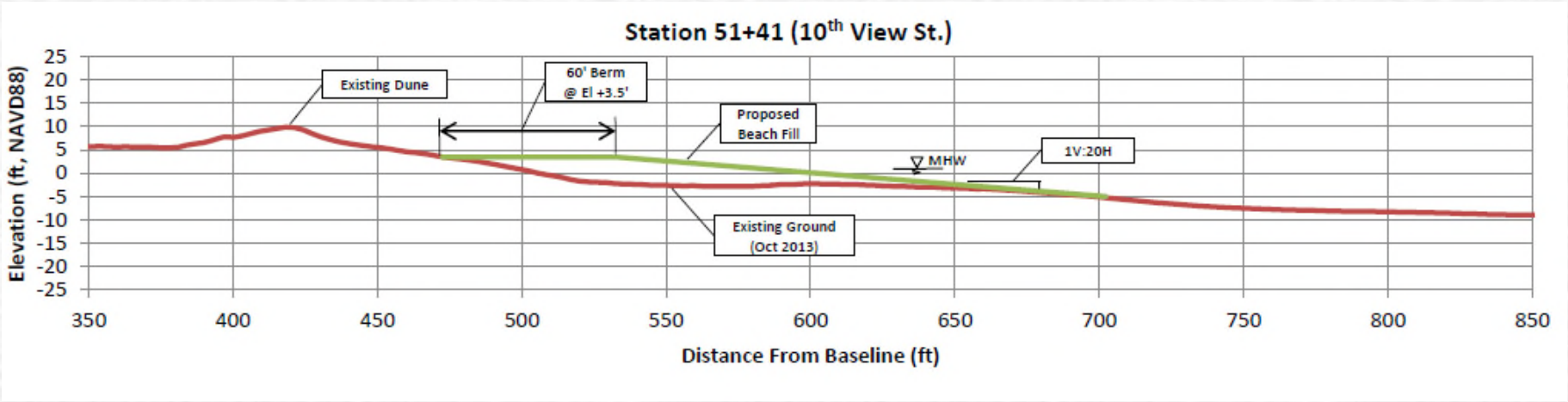
- "Disaster Relief Appropriations Act of 2013"
- City of Norfolk project included
- Limited Reevaluation Report for Willoughby Spit and Vicinity
- All 7.3 miles of shoreline between Little Creek Inlet and tip of Willoughby Spit
- East Ocean View, Central Ocean View & Willoughby
- Federal funding authorized


LIMITED REEVALUATION
REPORT
WILLOUGHBY SPIT
AND VICINITY
NORFOLK, VIRGINIA

Prepared by:
U.S. Army Corps of Engineers
Norfolk District
August 2013

Proposed US Army Corps of Engineers Project

- Widen beach "berm" (recreational area) by 60 feet at elevation of 5 feet above mean low water
- Slope down to natural bottom at 20 to 1
- Sand source Thimble Shoal Channel
- No impact to dunes, City shall continue to maintain dune system
- Renourishment when widened "berm" erodes to 30 feet in width (half), estimated to occur every nine (9) years



Proposed US Army Corps of Engineers Project

Proposed US Army Corps of Engineers Project

- 1.2 million cubic yards of sand (initial project)
- Football field of sand piled 560’ tall (initial project) – about height of Washington Monument
- 445 thousand cubic yards of sand (renourishment)
- Football field of sand piled 200’ tall (renourishment)

Initial Project Cost

- Estimated Initial Project Cost - $18.4 million
- Estimated City Initial Cost Share $5.48 million
- City match at 29.8% (Discounted from 35% because of Little Creek Inlet Jetty Impact)
- Legislation provides upfront funding of entire initial project cost
- City match (29.8%) can be financed over 30 years at 3.5% (current rate) - $300,000 per year
- City match to be recalculated every five (5) years at prevailing interest rate
- City would examine most advantageous financing options

Renourishment Cost

- Estimated Renourishment Project Cost (Every 9 years) - $7.49 million
- Estimated City Renourishment Cost Share (Every 9 years) - $3.19 million
- City renourishment match at 42.6% (Discounted from 50% because of Little Creek Inlet Jetty Impact) - $350,000 annually
- Total City Cost Share per year - $650,000 ($300,000 for initial project plus $350,000 for renourishment)

Current City Funding

- Current available CIP appropriations for Control Beach Erosion FY14 & residual of previous years – $1.15 million
- Planned CIP appropriations for Control Beach Erosion in approved FY14 budget - $500,000 each year FY15 thru FY18
- Required Ongoing Annual Beach Erosion Control Costs
  - Dune Stabilization ($100,000)
  - Wave Gauge Maintenance & Data Analysis ($90,000)
  - Twice yearly beach survey ($160,000)
  - Future needs include additional timber groin clean-up and removal, beach access walkway replacements

Current Proposed Project Status

- Letter of Interest sent from City Manager in August 2013
- Corps of Engineers to issue final LRR mid-January 2014
- Project Partnership Agreement between City & Corps late January 2014
- Project Construction Documents following execution of agreement
- Environmental Clearances ongoing (Coastal Consistency complete, Joint Permit Application underway)
- Project start anticipated in Spring 2015
- Project construction time approximately 6 months